Remarks

Claims 1 through 16, 18 through 29, 31 and 32 remain pending in the application.

The Examiner examined claims 1 through 30 in the initial examination. Claims 31 and 32 were submitted in a preliminary amendment October 11, 2007 and are listed in the application transaction history in the PAIR system. Prompt examination of these claims is requested.

Claims 14 and 27 stand objected to as containing confusing terminology. Claims 14 and 27 are amended to replace "maximum quantization interval" with "quantization step size" as suggested by the examiner. This objection should be withdrawn.

Claims 17 and 30 stand rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. Claims 17 and 30 are cancelled.

Claims 1 through 11 and 14, 15, 16 and 18 through 29 stand rejected under 35 U.S.C. § 103(a) as unpatentable over R. Geiger, J. Herre, J. Koller, and K. Brandenburg, "INTMDCT - A Link Between Perceptual and Lossless Audio Coding," IEEE Proceedings of ICASSP (2002), in view of Oshikiri, Sound Encoding Apparatus and Sound Encoding Method, U.S. Patent Publication 2005/0252361 (Nov. 17, 2005) and further in view of Li, Systemt and Mothod for Embedded Audio Coding with Implicit Auditory Masking, U.S. Patent Publication 2003/0187634 (Oct. 2, 2003). The Examiner asserts that it would have been obvious to combine the cited references to yield the inventions claimed in independent claims 1, 15, 16, 18, 28 and 29. However, the

combination of Geiger, Oshikiri, and Li does not include all the limitations of the independent claims and thus, these rejections should be withdrawn.

Oshikiri discloses an acoustic coding apparatus 1300 with a perceptual masking calculation section 1301 and an enhancement layer coder 1302. The perceptual masking calculation section 1301 calculates perceptual masking indicating the magnitude of a spectrum which can not be perceived by the human auditory sense and outputs the perceptual masking to the enhancement layer coder 1302 (paragraphs [120]-[121] and FIG. 15 of Oshikiri). The enhancement layer coder 1302 is mainly constructed of an MDCT section 1501 and an MDCT coefficients quantizer 1502 (paragraph [133] and FIG. 17 of Oshikiri). Further, the MDCT coefficient quantizer 1502 uses the perceptual masking output from the perceptual masking calculation section 1301 for the MDCT coefficients output from the MDCT section 1501 to classify the MDCT coefficients into coefficients to be quantized and coefficients not to be quantized and encodes only the coefficients to be quantized (paragraph [0135] of Oshikiri).

Thus, it can be seen that the perceptual masking output from perceptual masking calculation section 1301 is for quantization purpose, but not for bitplane coding which is not mentioned in Oshikiri at all. The Examiner has also failed to demonstrate any motivation to make the proposed combination. With no mention in Oshikiri of bitplane coding it is unclear why a person of ordinary skill in the art would consider Oshikiri a suitable reference absent some hindsight motivation to combine. These rejections should be withdrawn.

Accordingly, a combination of Geiger and Oshikiri would at most lead to the use of perceptual masking calculation for a quantizing of a digital signal. Such a combination would not lead to the feature of coding the error signal based on perceptual information of the digital signal wherein the perceptual information of the digital signal is determined using a perceptual model as claimed.

Li does disclose the use of bitplane coding based on auditory masking (paragraph [84] and FIG. 6 of Li). However, Li merely discloses bitplane coding of the input audio signal. Li fails to disclose an error signal at all and consequently fails to disclose bitplane coding of an error signal. The Examiner's asserted error signal of Li (output of subtractor 106) is not then further coded to comply with the limitations of the claim, even if the output signal of the subtractor was analogous to an error signal. These rejections should be withdrawn.

Thus, even if Li were combined with Geiger, such a combination would at most lead to the feature of bitplane coding the quantizied signal to form a core-layer bitstream. Such a combination would however fail to lead to bitplane coding the error signal.

The Examiner's proposed combination of Geiger, Oshikiri, and Li would accordingly also fail to lead to the feature of bitplane coding the error signal based on perceptual information wherein the perceptual information of the digital signal is determined using a perceptual model as defined in claim 1. Rather, such a combination would at most lead to features of using perceptual masking calculation for quantizing the digital signal (as suggested by Oshikiri) and bitplane coding the

quantized signal to form a core-layer bitstream (as suggested by Li).

Therefore, the Examiner's proposed combination of Geiger, Oshikiri, and Li fail to teach all the limitations of independent claims 1, 15, 16, 18, 28 and 29 and thus, the subject matter of independent claims 1, 15, 16, 18, 28 and 29 is not obvious over Geiger, Oshikiri, and Li, either alone or in a combination and these rejections should be withdrawn.

Claims 2 through 14, 19 through 27, 31 and 32 depend from independent claims 1, 15, 16, 18, 28 and 29 respectively and thus, the rejections regarding the dependent claims should also be withdrawn.

Conclusion

This response has addressed all of the Examiner's grounds for rejection. The rejections based on prior art have been traversed. Reconsideration of the rejections and allowance of the claims is requested.

Date: November 15, 2010 By: /Paul J. Backofen/
Paul J. Backofen, Esq.
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